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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,950	10/15/2004	Thomas Robieu	A92185	5949
366/08 7590 03/20/2009 GUIDRUN E. HUCKETT DRAUDT SCHUBERTSTR. 15A WUPPERTAL, 42289 GERMANY				
EXAMINER				
CHUKWURAH, NATHANIEL C				
ART UNIT		PAPER NUMBER		
3721				
MAIL DATE		DELIVERY MODE		
03/20/2009		PAPER		

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/711,950
Filing Date: October 15, 2004
Appellant(s): ROBIEU ET AL.

Gudrun E. Hockett
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/12/2007 appealing from the Office action mailed 10/13/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

UK 1,095,068	CLOSS et al.	12-1967
US 4,635,777	NICKKEL et al.	1-1987
US 3,982,616	BIDANSET	9-1976
US 5,503,261	SCHULTZ	4-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1-5, 7-9, 14 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over UK'068 (UK 1,095,068) in view of Nickel et al. (US 4,635,777).

With regard to claim 1, the UK'068 reference discloses a portable device (grinder) having an overload protection device (slip coupling) comprises a drive motor (1); a drive shaft (2); an output shaft (5), wherein the output shaft (5) is arranged substantially perpendicularly to the drive shaft (1); a drive pinion (3) connected to the drive shaft (2); a drum (12) supported on the output shaft (5) and driven in rotation by the drive pinion (3); a coupling (14) arranged between the drum (12) and the output shaft (5) and engaging the drum (12); wherein the coupling (14) is connected to the output shaft (5); wherein, when the output shaft is blocked, the coupling effects an automatic decoupling between the drum (12) and the output shaft (5) in order to prevent overloading of the drive motor (1).

The UK'068 reference discloses the claimed subject matter but lacks specific teaching of the coupling being force against the drum by the centrifugal force generated by the rotation of the output shaft. The reference of Nickel et al. teaches the coupling (4,5) coupling forced against the drum by the centrifugal force generated by the rotation of the output shaft so as to engage the drum. In view of the teaching Nickel et al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the portable device of UK'068 by providing the coupling which are forced against the drum by the centrifugal force generated by the rotation of the output shaft in order to engage and rotate the drum. See column 2, lines 59-68.

With regard to claim 2, the portable device of UK'068 includes the coupling (14) and the drum (12) engaging one another by frictional contact for transmitting a drive torque onto the output shaft (5).

With regard to claim 3, the portable device of UK'068 includes the coupling (14) and the drum (14) each have contact surfaces coated with a friction material (friction face).

With regard to claim 4, the portable device of UK'068 further comprises a pressing device (17) (dished spring) that forces the coupling (14) against the drum (12).

With regard to claim 5, the portable device of UK'068 includes the pressing device comprising of a coil spring (17).

With regard to claim 7, the portable device UK'068 includes the coupling (14) being forced against the drum (12) by centrifugal force generated by rotation of the output shaft (5).

With regard to claim 8, the portable device of UK'068, further comprising a pressing device (17), wherein the coupling (14) is forced against the drum (12) by the pressing device and by centrifugal force generated by rotation of the output shaft (5).

With regard to claim 9, the portable device of UK'068 includes a coil spring (17).

With regard to claim 14, the portable device of UK'068 includes the coupling (14) comprises driving means (friction plate) that have a rotary surface interacting by friction with a rotary surface of the drum (12), wherein the driving means (friction plate) comprise a spring device (17) forcing the rotary surface of the driving means (friction plate) against the rotary surface of the drum (12).

With regard to claim 17, the portable device of UK'068 includes a drive action of a tool (grinder) connected to the output shaft (5) being interrupted when the tool (grinder) encounters a resistance and is blocked (page 1, col. 1, lines 16-17).

Claim Rejections - 35 USC § 103

Claims 18-20, 23 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bidanset (US 3,982,616).

With regard to claims 18 and 26, the reference of Bidanset discloses an overload protection device (safety coupling) including a drive train (gear) for driving a tool (chain saw), wherein the drive train comprises a gearbox, wherein the overload protection device (safety coupling) comprises: a drum (5) having a circumferential wall; at least one fly body (6b, 11) engaging the circumferential wall of the drum (5); wherein the drum (5) and the at least one fly body (6b, 11) are mounted in the drive train.

The reference of Bidanset discloses the claimed subject matter except the drum (5) and the at least one fly body mounted in the drive train between the motor and the gearbox; wherein the drum is arranged at an input side of the drive train and the at least one fly body is arranged at

an output side of the drive train. However, it would have been an obvious matter of design choice to modify the reference of Bidanset by having the drum and the at least one fly body mounted in the drive train between the motor and the gearbox, since applicant has not disclosed that having the drum and the at least one fly body mounted in the drive train between the motor and the gearbox solves any stated problem or is for any purpose and it appears that the drum and the at least one fly body would perform equally well when mounted any other way.

With regard to claim 19, the overload protection device of Bidanset comprises means (11) for statically pressing the at least one fly body against the circumferential wall of the drum (5).

With regard to claim 20, the overload protection device of Bidanset is arranged in the machine tool as shown in Figure 3, to engage the drum and at least one fly body forced by gravity against the circumferential wall.

With regard to claim 23, the overload protection device of Bidanset includes at least one fly body (6b) having a first end (6c) that is pivotably supported and has a second free end (proximal end of 6b) provided with positive-locking guide means (11).

Claim Rejections - 35 USC § 103

Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Bidanset (US 3,982,616) in view of Shultz (US 5,503,261).

With regard to claim 24, the overload protection device of Bidanset discloses the claimed subject matter to the degree that it does not clearly show hinge bearing that pivotably supports the at least one fly body.

Shultz teaches the hinge bearing (24, 26) that pivotably supports the at least one fly body (32) wherein second free end (89, 90), beginning at the hinge bearing (24, 26), points in an operational rotary direction of the drum (67). Therefore, it would have been obvious to one skilled in the art at the time of the invention to provide the overload protection device of Bidanset with hinge bearing for pivotably supporting the at least one fly body in order to selectively couple to and uncouple from the drum.

(10) Response to Argument

A. Examiner interpretation of the independent claim

During patent examination of the claims, the pending claims must be given their broadest reasonable interpretation consistent with the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005). *See also* MPEP § 2111. Moreover, while the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, *this is not the mode of claim interpretation to be applied during examination*. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). *See also* MPEP § 2111.01.

Independent claim 1 recites:

A portable device having an overload protection device for motor-operated tool comprises a drive motor; a drive shaft connected to the drive motor and driven in rotation by the drive motor; an output shaft for driving a cutting tool, wherein the output shaft is arranged substantially perpendicularly to the drive shaft; a drive pinion connected to the drive shaft;

a drum supported on the output shaft and driven in rotation by the drive pinion;
a coupling arranged between the drum and the output shaft and engaging the drum; wherein the coupling is connected to the output shaft; wherein, when the output shaft is blocked, the coupling effects an automatic decoupling between the drum and the output shaft in order to prevent overloading of the drive motor; wherein the coupling is forced against the drum by centrifugal force generated by rotation of the output shaft.

B. The rejection of claim 1 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing on pages 12 and 13, that UK'068 reference has no centrifugal force to affect the coupling action, and that there is no drum and no coupling that is forced by centrifugal force against the drum.

There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). *See also* MPEP § 2143.01.

In this instance, UK'068 reference discloses the subject matter of the invention.

The teaching of Nickel et al. was chosen to show that it is obvious to provide the drum and centrifugal weights that radially engage the drum when a predetermined rotational speed is exceeded.

Nickel et al. more importantly discloses on column 6, lines 55-60 "As soon as the instantaneous rotational speed drops below a predetermine value, the return force of the spring 9,

10 overcomes the centrifugal force so that the centrifugal weight 4, 5 pivot inwardly towardly their rest position”.

This suggests in Nickel et al. that the decoupling of the centrifugal weights from the drum is automatic.

Additionally, Appellant argues that the drum of Nickel et al. is not driven by a drive pinion connected to the drive shaft. As discussed above, the primary reference UK’068 discloses the subject matter of the invention, and Nickel et al. was chosen to show Appellant that it is obvious to provide the drum and centrifugal weights that radially engage the drum.

Appellant further argues that drum fixedly mounted on the drive shaft and there no drive pinion that drives that drum. The drum of Nickel et al. is supported on the output portion of the drive shaft, the teaching of Nickel et al. was chosen to show Appellant that it is obvious to provide the drum and centrifugal weights that radially engage the drum.

Appellant is arguing that it is not obvious to reverse the clutch of Nickel et al. when mounting it in a device of UK’068. Nickel et al. has not taught or suggested that reverse mounting of the drum and centrifugal weights is a better option and one of ordinary skilled in the art would not chose a “reverse mount” option for the drum and centrifugal weights.

Finally, Appellant argues that the modification of UK’068 with the centrifugal clutch of Nickel et al. as suggested by the examiner is, simply stated, inoperative.

There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

See also MPEP § 2143.01. Nickel et al. teaching has shown that it is obvious to modify the UK'068 reference.

Appellant has not overcome the *prima facie* burden of obviousness as the examiner has provided sufficient motivation to reject the claim using the UK'068 in view of Nickel et al. The § 103(a) rejection of claim 1 should be affirmed.

C. The rejection of claims 4, 8 and 14 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing on pages 14 and 15 that, If the concept disclosed in UK'068 is applied to the centrifugal clutch of Nickel et al., the weights 4, 5 are forced by a spring force against the drum to transmit the drive torque at all times there is no longer a clutch or coupling that engages at a desired rotational speed.

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). *See also* MPEP § 2111.01.

The modification of the UK'068 reference by the Nickel et al. reference would over-ride Appellant's concern with respect to the spring force.

D. The rejection of claim 18 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing on pages 18 and 19 that the arrangement of Bidanset functions different way from the present invention and that since all rotating masses must be braked, the braking process takes a long time and no instantaneous decoupling is possible.

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). *See also* MPEP § 2111.01.

As discussed above, there are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). *See also* MPEP § 2143.01. Nickel et al. teaching has shown that it is obvious to modify the UK'068 reference.

Appellant's argument about the arrangement and function of Bidanset suggests that Appellant is not disputing that Bidanset discloses the invention except the arrangement and its function.

While Appellant may argue about the importance of the arrangement, one skilled in art would arrange the overload protection device in other ways than the claimed arrangement that provides advantage. While Appellant may argue about the limitations in the claim, the limitation of "all rotating masses must be braked, the braking process takes a long time and no instantaneous decoupling is possible" is not relevant the claim being argued.

Appellant has not overcome the *prima facie* burden of obviousness as the examiner has provided sufficient motivation to reject the claim using Bidanset. The § 103(a) rejection of claim 18 should be affirmed.

E. The rejection of claim 19 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing on page 19, that the shoes 11 are no means for statically pressing the fly bodies against the drum.

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). *See also* MPEP § 2111.01.

The portion of the shoe pressing on the drum is a means for statically pressing the entire fly body of the shoe against the drum. The § 103(a) rejection of claim 19 should be affirmed.

F. The rejection of claim 20 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing on page 20 that “It is therefore not possible that a gravity-caused contact between the fly body and the circumferential wall of the drum is shown”.

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). *See also* MPEP § 2111.01.

While Appellant has not considered element (11) as fly body, it is a fly body forced by gravity against the drum because, as per Fig. 4, shoe 11 on the lower position of the device must be acted upon by gravity also during rotation to cause the shoe to move against the drum. The § 103(a) rejection of claim 20 should be affirmed.

G. The rejection of claims 23 and 24 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing on pages 20 and 21, that the elements 11 are means that cause a frictional engagement of the drum wall when they are centrifugally forced radially outwardly, that frictional engagement is not a positive-locking engagement.

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). *See also* MPEP § 2111.01.

A positive-locking engagement includes frictional engagement because without frictional engagement, two bodies cannot positively and lockingly engage. The limitation is satisfied.

Further Appellant argues that the Shultz reference teaches a hinge bearing supporting a fly body but does not provide teachings in regard to the features of claims 18 and 23 that are not disclosed in or taught by Bidanset.

The teaching of Shutz was chosen to show that it is obvious to provide the hinge bearing since it is important that the fly body must be supported at a point that allows it fly out at the start of rotation. The § 103(a) rejection of claim 20 should be affirmed.

H. The rejection of claim 26 under 35 U.S.C. § 103(a) is proper and should be affirmed.

Appellant is arguing that overload protection device of claim 18 is not obvious in view of Bidanset.

As stated above, there are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. *In re Rouffet*, 149 F.3d at 1357.

Bidanset discloses the invention as claimed as applied to claim 18, and as argued previously above. Appellant has not overcome the *prima facie* burden of obviousness. The examiner has provided sufficient motivation to reject the claim using the reference of Bidanset. The § 103(a) rejection of claim 26 should be affirmed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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